

NOAA REPORT



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NOAA, National Geographic Society Launch Sustainable Seas Expeditions



Audrey Shehyn for NOAA

Commerce Secretary William M. Daley guides National Geographic Explorer-in-Residence Sylvia Earle into a submersible on the NOAA Ship McArthur in San Francisco Bay.

—By Justin Kenney
San Francisco. “I am committed to the idea that healthy economies and healthy environments go hand in hand,” Commerce Secretary William M. Daley told the crowd gathered at San Francisco’s Pier 32 on Earth Day April 22 to help launch the Sustainable Seas Expeditions. The 5-year project with the National Geographic Society will use submersibles to explore and document plants and animals in the twelve national marine sanctuaries administered by NOAA.

The event was just one stop on a busy Earth Day for Secretary Daley, Assistant Secretary Terry Garcia, Deputy Assistant Secretary *continued on page 6*

The Other Y2K Problem: Space Weather

—By Barbara McGehan

While some people are frantically rewriting computer code to account for the year 2000, scientists at NOAA’s Space Environment Center in Boulder, Colo., are calmly but resolutely preparing for the “other” Y2K problem—space weather.

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J.C. Brown for DOC

Students end Earth Day at “The Hand” on NOAA’s Silver Spring Metro Center campus. See page 4 for more on Earth Day with NOAA.

Pact Promotes Recreational Fishing, Marine Education

The National Marine Fisheries Service and the National Marine Educators Association have formed a partnership to promote sound marine conservation and education issues in the classroom.

The agreement between NOAA Fisheries and the association provides a framework to develop a variety of cooperative activities that will increase recreational fishing opportunities and promote marine education issues. Projects may include school workshops presented by NOAA scientists, student field trips to various marine sites including marine sanctuaries, and annual conferences to provide classroom teachers and informal educators the opportunity to participate and exchange teaching materials on marine conservation issues.

"This new partnership will pave the way in expanding marine science education into curricular and public education programs," said Penny Dalton, director of the National Marine Fisheries Service.

"We place a strong emphasis on education, and the National Marine Educators Association is a great forum for improving public knowledge of the ocean as well as training the next generation of marine biologists," Dalton said.

For 22 years, the National Marine Educators Association has worked at the grass-roots level to address the need for better formal education and public outreach for

Lexington High School Repeats As National Ocean Sciences Bowl Champs

For the second straight year, Lexington (Mass.) High School has won the National Ocean Sciences Bowl.

Held at Gallaudet University in Washington, D.C., April 10-12, the second annual nationwide finals of the National Ocean Sciences Bowl included 18 high school teams from around the country competing in a "quiz bowl" event testing knowledge of ocean science.

The competition is coordinated by the Consortium for Oceano-

graphic Research and Education and supported by the National Marine Educators Association, the National Science Teachers Association and nine federal agencies, including NOAA.

This year, over 1,200 students from across the nation competed in regional competitions.

The winning team members receive full scholarships to the U.S. Navy's Engineering and Science Residential Program to be held this summer at the University of Southern Mississippi. ☺

—Michael Quigley



NBC Today

NOAA Administrator D. James Baker (left) talked hurricane safety with weatherman Al Roker on a recent Today Show in New York.

ocean issues. The association acts as a marine resource clearinghouse by directing educators to sources of marine and aquatic information, linking scientists and educators, and finding ways to incorporate marine science into classroom curricula.

"The National Marine Educators Association has a long tradition of

working to make known the world of water, both salt and fresh," said association president Joy Wolf. "We are pleased to establish a partnership with the National Marine Fisheries Service to further our shared goals of education and conservation regarding our oceans resources." ☺

—Stephanie Dorezas

Fisheries Leadership Changes

Penelope Dalton, former senior staff member on the U.S. Senate Committee on Commerce, Science and Transportation, is the new NOAA Assistant Administrator for Fisheries, relieving Rollie Schmitt, who was named Deputy Assistant Secretary for International Affairs. Andrew Kemmerer will head the Office of Habitat Conservation. William Hogarth replaces Kemmerer as Southwest Region Deputy Director.

News Briefs

Lilly Elected to NAS

Douglas K. Lilly, senior scientist with NOAA's National Severe Storms Laboratory and emeritus professor of meteorology at the University of Oklahoma, has been elected a member of the National Academy of Sciences.

AWIPS Wins Award

NOAA's Advanced Weather Interactive Processing System has received a *Computerworld*-Smithsonian Institution laureate medal. The award honors the use of information technology to create positive social and economic change. A case study of AWIPS is now part of the permanent research collection on information technology at the Smithsonian's National Museum of American History.

Satellite Head Retires

Robert S. Winokur retired April 30 as Assistant Administrator for Satellite and Information Services. He joins the Consortium for Oceanographic Research and Education in Washington, D.C.

Solar Forecast: Stormy Weather

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Around March of 2000, NOAA scientists expect a dramatic increase in solar storms and geomagnetic activity that could have significant impacts on human activities, interrupting global telecommunications, disrupting ship and air transportation that relies on precise, satellite-based navigation and even causing overloads in power transmission grids that can trigger power "brown outs" over large regions of the Earth.

To prepare for this unavoidable, but predictable, electromagnetic onslaught from space, the Space Environment Center is issuing space weather alerts and outlooks to inform the public when dangerous space

weather may occur, much like the National Weather Service issues forecasts and warnings of earthly weather.

Space weather occurs in the area between the Earth and the Sun, which generates "storms" of electromagnetic disturbances that can swirl through space, colliding with Earth and Earth's magnetic field, generating the Northern and Southern Lights and sometimes adversely affecting human activities. In 1989, the entire province of Québec was thrown into darkness when a geomagnetic storm caused an overload on power lines.

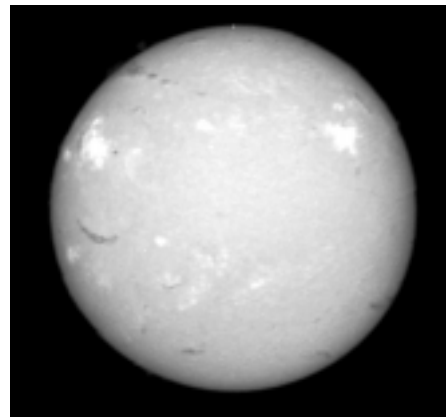
In space, without the Earth's atmosphere to shield them, U.S. astronauts face unique hazards when venturing outside the safety of the space shuttle. They remain alert for episodes of dangerous energetic particle emissions from

the Sun. Because the danger will increase for astronauts constructing the International Space Station, the Space Environment Center is working closely with NASA's Johnson Space Flight Center.

To educate the public on the potential dangers of space weather, the Space Environment Center hosted a conference of 200 space weather users, researchers and vendors at the Boulder facility

April 19-23 during Space Weather Week.

"Bringing the researchers and users together for the first time, brought a new synergy that we have not experienced before," said Barbara Poppe, who organized



the conference.

"The week began with a tutorial on space weather and why the public should be concerned. Users ranging from power companies to satellite operators, navigation systems companies and ham radio operators gave the center excellent feedback on their needs and problems. They were joined by university and government researchers and commercial vendors interested in modeling the space environment. Everyone's goal was to provide better, faster and more helpful forecasts of disturbances in the space environment," Poppe said.

The Space Weather Operations branch is jointly operated by NOAA and the U.S. Air Force.

For more information, consult the Space Environment Center Web site at: <http://sec.noaa.gov>.

Focus On...

Earth

Earth Day Brings Kids to NOAA

More than 100 students visited NOAA facilities in Silver Spring on Earth Day, April 22, for "Bring Your Kids to Work" events sponsored by the National Ocean Service. The kids, most of them daughters and sons of NOAA employees, analyzed water samples, learned how nautical and aeronautical charts are made and participated in many other hands-on educational activities.



J.C. Brown for DOC

On Earth Day, children from local schools learned all about the science and art of nautical chartmaking from National Ocean Service cartographers at NOAA's Silver Spring Metro Center campus.



J.C. Brown for DOC

William Harper, cartographer in the Update Service Branch of the Office of Coast Survey, and young Earth Day guests watch the printing of the Potomac River chart the children updated. Pictured left to right: Katharine Fraser, Kimberly Travis, Claire Hoey, Amanda Davis, Katie Harper, William Harper and Meredith Myers.

Children Learn How Nautical Charts Are Made

Children visiting National Ocean Service offices in the Silver Spring Metro Center on Earth Day edited a nautical chart of the Potomac River, which includes Washington, D.C., streets and other cultural details. In a training exercise, the children "updated" the names of streets and landmarks on the chart and sent the chart to the plotter for printing.

Day With NOAA

Great Lakes Laboratory Celebrates Earth Day, 25th Anniversary

The Great Lakes Environmental Research Laboratory celebrated its 25th anniversary and Earth Day with combined events April 25-26.

A lab-wide public open house was held Sunday, April 25, to commemorate Earth Day, followed the next day by an afternoon of seminars on environmental issues affecting the Great Lakes. The events concluded with a public reception and banquet featuring former U.S. Ambassador to Canada and Michigan Governor James Blanchard, who gave the keynote address.

The lab's staff concentrates on coastal and estuarine water research with special emphasis on the Great

Lakes. Areas of study include the invasive zebra mussel, regional effects related to global climate change, hydrology and water levels of the Great Lakes and the sources and effects of toxicants in the lakes.

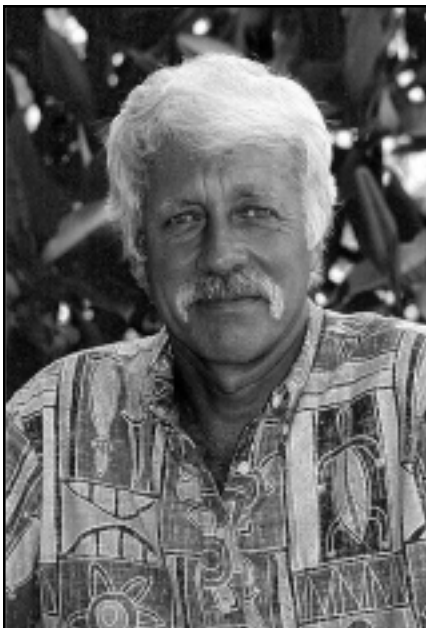
For more information, visit the Great Lakes Environmental Research Laboratory's World Wide Web site at www.glerl.noaa.gov.

—Michael Quigley ☺

Scientist Margaret Lansing leads students on a tour of the Great Lakes Environmental Research Laboratory in Ann Arbor, Mich.



Michael Quigley/NOAA



Hawaii Sea Grant

Bruce Miller, director of the Hawaii Sea Grant Extension Program, is one of thirty-four 1999 NOAA Environmental Heroes.

NOAA Honors Environmental Heroes

Since 1996, NOAA has recognized individuals and organizations throughout the United States for their tireless efforts to preserve and protect the nation's environment.

This year there are 34 such individuals and groups honored as "Environmental Heroes," recognized by Vice President Al Gore for their "passionate commitment to the protection of our nation's environment."

NOAA's 1999 Environmental Heroes are: Donald Anderson (Woods Hole Oceanographic Institution), Brian Baird (State of California), Hannah Bernard (director, Hawaii Wildlife Fund, Maui), Wayne Blevins (volunteer,

Florida Keys National Marine Sanctuary), Joseph M. Branceleone (chairperson, New England Fishery Management Council), The Cambrian Foundation, Orlando, Fla. (Monitor National Marine Sanctuary), Sean Casey (Youth for Environmental Services, Hawaii), Mike Collins (volunteer chairperson, Florida Keys National Marine Sanctuary), Jim Coon (past chairman, Hawaii Whale Sanctuary Advisory Committee), Alan Craydick, (volunteer, Florida Keys National Marine Sanctuary), Dakota Ridge Aviation, Inc. (Boulder, Colo.), Deighton Emmons (science teacher, Hawaii Preparatory Academy), John
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Secretary Daley's Earth Day Begins With Dawn Tour

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Sally Yozell and other NOAA officials as they witnessed sustainable development in practice in the San Francisco Bay area.

The Commerce group's day began in the dawn light with a tour of Cohan Seafood's processing plant at Pier 45 on Fisherman's Wharf. Company President Barry Cohan credited grants from Commerce's Economic Development Agency that allowed the city to rebuild Pier 45 and, in the process, helped to keep scores of jobs in the urban core.

Next stop was the Port of Oakland, where the Secretary, Garcia and NOAA Assistant Administrator Nancy Foster met with the port's Executive Director, the head of the Bay Conservation and Development Commission and local business leaders to talk about President Clinton's Lands Legacy



Audrey Shehyn for NOAA

Secretary Daley (left) discusses seafood with Ed Kaitz, quality control manager for Cohan Seafood on Pier 45 on Fisherman's Wharf in San Francisco.

Initiative, including \$10 million for coastal dredging.

Secretary Daley learned about the port's plans to dredge key channels, with dredged material to be used to help restore wetlands in the bay and estuary. Deeper channels mean bigger, more

profitable freighters can use the port, bringing more jobs and revenues to the people of Oakland. Additional wetlands mean cleaner waters and more habitat for wildlife, including threatened species of salmon.

A short boat tour of the harbor provided the Commerce team with an opportunity to emphasize the Department's role in safe and efficient marine transportation, oil spill prevention and response and coastal resource protection. Preventing maritime accidents is an important element of environmental protection, linking the Department's economic development and environmental protection mandates.

The boat tour ended across the bay at San Francisco's Pier 32, where the Secretary and the Commerce team boarded the NOAA Ship *McArthur*, a 175-foot research vessel under the command of Lt. Cdr. William Sites. Onboard, Secretary Daley was joined by Garcia, National Geographic Society Senior Vice President Dale



Audrey Shehyn for NOAA

Cohan Seafood owner Barry Cohan (center) is flanked by Commerce Secretary William M. Daley (left), Assistant Secretary Terry Garcia (right) and Cohan Seafood employees at the company's processing plant in San Francisco on Earth Day, April 22.

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Team Sees Bay, Harbor Up Close

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Petroskey and Society Explorer-in-Residence Sylvia Earle to kick off the Sustainable Seas Expeditions.

The five-year project between NOAA and the National Geographic Society is a first-of-its-kind exploration of the nation's twelve marine sanctuaries using sophisticated new submersible technology to explore the ocean and learn how best to protect it. The first expedition began in NOAA's Gulf of the Farallones National Marine Sanctuary on Earth Day.

"Marine sanctuaries are global treasures," Secretary Daley said aboard *McArthur*. "Each is a proud reflection of our commitment to the economic and environmental health of our planet, and an indispensable legacy for future generations."

Made possible by an initial \$5-million grant from the Richard and Rhoda Goldman Fund and \$775,000 from National Geo-



Audrey Shehyn for NOAA

National Geographic Society Explorer-in-Residence Sylvia Earle discusses the Sustainable Seas Expeditions with Commerce Secretary William M. Daley and Assistant Secretary Terry Garcia onboard the NOAA Ship McArthur.

graphic Society's Exploration Council, the Sustainable Seas project is led by Earle and Francesca Cava, former director of NOAA's National Marine Sanctuary Program.

"Two hundred years ago Lewis and Clark set out to explore the

American landscape," Earle said, "and a century later President Theodore Roosevelt committed us to its conservation. Today we combine the ideals of exploration and conservation for a voyage into the ocean—America's last frontier—which remains largely unexplored and unprotected."

Earle and other trained aquanauts—from high school teachers to marine biologists—will undertake a comprehensive exploration of each sanctuary, surveying life forms, habitats and geological formations below 100 feet. Scientists will use the orbiting Global Positioning System to make three-dimensional maps and models of the sanctuaries. The aquanauts will also set up systems to monitor changes in the marine environment and compare the nearly pristine sanctuaries with areas that are overfished and polluted.

A parallel goal of the project will be to promote an ocean ethic. "The living ocean drives planetary chemistry, governs climate and weather and provides the corner-



Audrey Shehyn for NOAA

Secretary Daley (center) joins Sustainable Seas Expeditions aquanauts from the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries on the NOAA Ship McArthur on Earth Day in San Francisco Bay.

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Robert H. Taylor/U. of Okla.

Kimpel to Lead Meteorologists

National Severe Storms Laboratory director James F. Kimpel is the president-elect of the American Meteorological Society. Kimpel, a certified consulting meteorologist and an AMS fellow, will head the 12,000-member society in 2000.

News Briefs

Jones Award Nominees Sought

NOAA is accepting nominations for the 1999 Walter B. Jones Memorial and NOAA Excellence Awards for Coastal and Ocean Resource Management. Deadline is June 30. For more information, call 301-713-3070 ext. 170.

One-Stop Shopping

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From Gritty Ports to Pristine Reefs

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stone of the life-support system for all species on Earth," Earle said. "With knowing comes caring, and with caring there's a hope that we'll find an enduring place for ourselves within the natural systems that sustain us."

Following the kickoff of the Sustainable Seas Expeditions, Secretary Daley, Garcia, Foster and others traveled to Duxbury Reef, a popular site for viewing wildlife, and Bolinas Lagoon in the Gulf of the Farallones National Marine

Sanctuary. There, NOAA sanctuary manager Ed Ueber provided a tour of the reef's extensive intertidal area.

By Earth Day's end, Secretary Daley had traveled from gritty ports to pristine reefs, toured a fish processing plant and helped launch a new era of undersea exploration. In so doing, he highlighted the many ways Commerce and NOAA work with local communities and citizens to transform sustainable development from a catchword to a reality. ☺

NOAA Environmental Heroes

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Goldman (contributor, Sustainable Seas Expeditions), Walter "Skip" Hartman (volunteer advisor, New York Sea Grant's Great Lakes Sportfishery Development Program), Al Manning (Climate Monitoring and Diagnostics Laboratory, Grifton, N.C.), The Mariners' Museum, Newport News, Va. (Monitor National Marine Sanctuary), David Matilla (principal investigator, Center for Coastal Studies, Whale Disentanglement Program), Bruce Miller (director, Hawaii Sea Grant Extension Program), National Undersea Research Center, University of North Carolina at Wilmington (Monitor National Marine Sanctuary), Joyce Newman (Clean Water Action, Florida Keys and Florida Bay), Nancy Rabalais (Louisiana Universities Marine Consortium), Mark Robertson (Nature Conservancy, Florida Keys), John R. Russell (volunteer, Center for Fisheries and Habitat Research, Beaufort, N.C.), Rachel Saunders (volunteer chairperson, Monterey Bay National Marine Sanctuary Conservation Working Group), Rep. Brian Schatz (Hawaii State Legislature), Malcolm D. Smith

(Fort Peck, Montana, Reservation), John Stark (The Earth Foundation, volunteer, Flower Gardens Bank National Marine Sanctuary), Roger Strand (Climate Monitoring and Diagnostics Laboratory, Park Falls, Wisc.), U.S. Coast Guard Auxiliary (Stellwagen Banks National Marine Sanctuary), U.S. Navy Mobile Diving and Salvage Unit Two (Monitor National Marine Sanctuary), Lee B. Weiher (53rd Weather Reconnaissance Squadron, Keesler Air Force Base, Miss.), Evangeline Whorton (Scenic Galveston, Inc.), and Peter Wiebe (Woods Hole Oceanographic Institution). ☺

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